

# AP BIOLOGY VOCABULARY

## CHAPTER 2

anion  
atomic mass  
atomic number  
cation  
chemical equilibrium  
covalent bond  
electronegativity  
hydrogen bond  
ionic bond  
isotope  
mass number  
orbital  
trace element  
valence  
valence electron  
van der Waals interaction

## CHAPTER 3

acid  
adhesion  
aqueous solution  
base  
buffer  
cohesion  
heat  
heat of vaporization  
hydration shell  
hydrophilic  
hydrophobic  
molarity  
mole  
molecular mass  
pH  
solution  
specific heat  
surface tension  
temperature

## CHAPTER 4

alcohol  
amino group  
carbonyl group  
carboxyl group  
enantiomer  
functional group  
hydroxyl group  
isomer  
organic chemistry  
phosphate group  
sulfhydryl group

## CHAPTER 5

$\alpha$  helix  
 $\beta$  pleated sheet  
amino acid  
antiparallel  
carbohydrate  
cellulose  
chaperonin  
chitin  
cholesterol  
condensation reaction  
conformation  
denaturation  
deoxyribose  
fatty acid  
gene  
glycogen  
hydrolysis  
hydrophobic interaction  
lipid  
macromolecule  
nucleic acid  
nucleotide  
peptide bond  
phospholipid  
polymer  
polypeptide  
primary structure  
protein  
purine  
pyrimidine

quaternary structure  
ribose  
saturated fatty acid  
secondary structure  
starch  
steroid  
tertiary structure  
unsaturated fatty acid  
X-ray crystallography

## CHAPTER 6

cell wall  
centriole  
centrosome  
chloroplast  
chromatin  
chromosome  
cilia  
collagen  
cristae  
cytoplasm  
cytoskeleton  
cytosol  
endomembrane system  
endoplasmic reticulum  
eukaryotic cell  
extracellular matrix  
flagella  
glycoprotein  
Golgi apparatus  
grana  
intermediate filament  
lysosome  
microfilament  
microtubule  
mitochondria  
mitochondrial matrix  
nuclear lamina  
nucleoid  
nucleolus  
organelle  
peroxisome  
phagocytosis  
plasma membrane  
plasmodesmata

## **CHAPTER 6 (cont.)**

plastid  
prokaryotic cell  
ribosome  
stroma  
thylakoid  
transport vesicle

## **CHAPTER 7**

active transport  
amphipathic  
concentration gradient  
diffusion  
electrochemical gradient  
endocytosis  
exocytosis  
facilitated diffusion  
flaccid  
fluid mosaic model  
hypertonic  
hypotonic  
integral protein  
ion channel  
isotonic  
ligand  
membrane potential  
osmoregulation  
osmosis  
passive transport  
peripheral protein  
plasmolysis  
selective permeability  
tonicity  
turgid

## **CHAPTER 8**

activation energy  
active site  
allosteric regulation  
anabolic pathway  
catabolic pathway  
catalyst  
coenzyme  
cofactor  
competitive inhibitor  
endergonic reaction  
energy coupling  
entropy  
enzyme  
exergonic reaction

feedback inhibition  
free energy  
kinetic energy  
metabolism  
noncompetitive inhibitor  
potential energy  
substrate

## **CHAPTER 9**

acetyl CoA  
aerobic  
alcohol fermentation  
anaerobic  
cellular respiration  
chemiosmosis  
citric acid cycle  
electron transport chain  
facultative anaerobe  
fermentation  
glycolysis  
lactic acid fermentation  
NAD<sup>+</sup>  
oxidation  
oxidative phosphorylation  
oxidizing agent  
redox reaction  
reducing agent  
reduction  
substrate-level phosphorylation

## **CHAPTER 10**

absorption spectrum  
autotroph  
C<sub>3</sub> plant  
C<sub>4</sub> plant  
Calvin cycle  
CAM plant  
carbon fixation  
carotenoid  
chlorophyll  
cyclic electron flow  
electromagnetic spectrum  
glyceraldehyde 3-phosphate  
heterotroph  
glyceraldehyde 3-phosphate  
light reactions  
NADP<sup>+</sup>  
noncyclic electron flow  
photon  
photosystem I

photosystem II  
rubisco  
spectrophotometer  
stomata  
wavelength

## **CHAPTER 11**

cyclic AMP (cAMP)  
G protein  
hormone  
local regulator  
protein kinase  
protein phosphatase  
second messenger  
signal transduction pathway

## **CHAPTER 12**

anaphase  
benign tumor  
binary fission  
cell cycle  
cell plate  
cleavage furrow  
cyclin  
cytokinesis  
G<sub>0</sub> phase  
G<sub>1</sub> phase  
G<sub>2</sub> phase  
gamete  
genome  
growth factor  
interphase  
kinetochore  
malignant tumor  
meiosis  
metaphase  
metaphase plate  
metastasis  
mitosis  
mitotic phase  
mitotic spindle  
origin of replication  
prometaphase  
prophase  
S phase  
sister chromatids  
somatic cell  
telophase  
transformation

## CHAPTER 13

alternation of generations  
autosome  
chiasmata  
clone  
crossing over  
diploid cell  
fertilization  
gametophyte  
genetics  
haploid cell  
heredity  
homologous chromosomes  
karyotype  
locus  
recombinant chromosome  
sex chromosome  
spore  
sporophyte  
synapsis  
tetrad  
variation  
zygote

## CHAPTER 14

allele  
amniocentesis  
carrier  
character  
codominance  
complete dominance  
dihybrid  
epistasis  
F<sub>1</sub> generation  
F<sub>2</sub> generation  
genotype  
heterozygous  
homozygous  
hybridization  
incomplete dominance  
law of independent assortment  
law of segregation  
monohybrid  
P generation  
pedigree  
phenotype  
pleiotropy  
polygenic inheritance  
quantitative character  
testcross  
trait

## CHAPTER 15

aneuploidy  
Barr body  
deletion  
duplication  
genetic map  
genetic recombination  
genomic imprinting  
linkage map  
linked gene  
monosomic  
nondisjunction  
polyploidy  
sex-linked gene  
trisomic  
wild type

## CHAPTER 16

bacteriophage  
DNA ligase  
DNA polymerase  
helicase  
lagging strand  
leading strand  
mismatch repair  
nuclease  
nucleotide excision repair  
Okazaki fragment  
origin of replication  
primase  
primer  
replication fork  
telomere  
transformation

## CHAPTER 17

A site  
alternative RNA splicing  
aminoacyl-tRNA synthetase  
anticodon  
codon  
E site  
exon  
frameshift mutation  
intron  
messenger RNA (mRNA)  
missense mutation  
mutagen  
mutation  
nonsense mutation

P site  
point mutation  
polyribosome  
primary transcript  
promoter  
ribosomal RNA (rRNA)  
ribozyme  
RNA polymerase  
RNA processing  
RNA splicing  
spliceosome  
template strand  
transcription  
transcription factor  
transcription unit  
transfer RNA (tRNA)  
translation  
triplet code

## CHAPTER 18

capsid  
conjugation  
episome  
host range  
lysogenic cycle  
lytic cycle  
operator  
operon  
plasmid  
prion  
prophage  
provirus  
regulatory gene  
repressor  
retrovirus  
reverse transcriptase  
transduction  
transformation  
transposon  
vaccine  
viral envelope

## CHAPTER 19

activator  
cell differentiation  
control element  
differential gene expression  
enhancer  
euchromatin  
heterochromatin  
histone

## CHAPTER 19 (cont.)

multigene family  
nucleosome  
oncogene  
proteasome  
proto-oncogene  
repetitive DNA  
tumor-suppressor gene

## CHAPTER 20

biotechnology  
cloning vector  
complementary DNA (cDNA)  
DNA fingerprint  
DNA microarray assay  
expression vector  
gel electrophoresis  
gene cloning  
gene therapy  
genetic engineering  
Human Genome Project  
nucleic acid hybridization  
nucleic acid probe  
polymerase chain reaction  
recombinant DNA  
restriction enzyme  
restriction fragment  
restriction site  
single nucleotide polymorphism  
sticky end  
Ti plasmid  
transgenic

## CHAPTER 22

artificial selection  
biogeography  
descent with modification  
endemic  
evolution  
evolutionary adaptation  
fossil  
homologous structure  
homology  
natural selection  
paleontology  
sedimentary rock  
taxonomy  
vestigial organ

## CHAPTER 23

bottleneck effect  
cline  
directional selection  
disruptive selection  
founder effect  
gene flow  
gene pool  
genetic drift  
geographical variation  
Hardy-Weinberg equilibrium  
heterozygote advantage  
microevolution  
neutral variation  
phenotypic polymorphism  
population  
population genetics  
relative fitness  
sexual dimorphism  
sexual selection  
stabilizing selection

## CHAPTER 24

adaptive radiation  
allopatric speciation  
biological species concept  
homeotic gene  
macroevolution  
paedomorphosis  
punctuated equilibrium  
speciation  
species  
species selection  
sympatric speciation

## CHAPTER 25

analogy  
binomial  
clade  
cladistics  
cladogram  
class  
domain  
family  
fossil record  
genus  
homoplasy  
kingdom  
molecular clock  
molecular systematics  
monophyletic

order  
paraphyletic  
phylogenetic tree  
phylogeny  
phylum  
polyphyletic  
specific epithet  
systematics  
taxon  
taxonomy

## CHAPTER 26

half-life  
magnetic reversal  
Pangaea  
protobiont  
radiometric dating  
serial endosymbiosis  
stromatolite

## CHAPTER 27

anaerobic respiration  
antibiotic  
biofilm  
bioremediation  
chemoautotroph  
chemoheterotroph  
commensalism  
cyanobacteria  
decomposer  
endospore  
endotoxin  
exotoxin  
extreme halophile  
extreme thermophile  
facultative anaerobe  
Gram stain  
host  
mutualism  
nitrogen fixation  
obligate aerobe  
obligate anaerobe  
parasite  
parasitism  
peptidoglycan  
photoautotroph  
photoheterotroph  
symbiont  
symbiosis  
taxis

## CHAPTER 29

angiosperm  
bryophyte  
cuticle  
gametophyte  
gymnosperm  
lignin  
lycophyte  
moss  
peat  
phloem  
pterophyte  
seed  
sorus  
spore  
sporophyte  
sporopollenin  
stomata  
vascular tissue  
xylem

## CHAPTER 30

anther  
carpel  
conifer  
cotyledon  
cross-pollination  
double fertilization  
endosperm  
filament  
flower  
fruit  
ovary  
ovule  
Petal  
pollen grain  
Pollination  
Sepal  
Stamen  
Stigma  
Style

## CHAPTER 31

Chitin  
Exoenzyme  
Haustoria  
Hyphae  
Lichen  
Mold  
Mycelium

mycorrhizae  
mycosis  
pheromone  
yeast

## CHAPTER 32

acoelomate  
anterior  
archenteron  
bilateral symmetry  
bilaterian  
blastopore  
blastula  
Cambrian explosion  
cephalization  
cleavage  
coelom  
coelomate  
determinate cleavage  
deuterostome development  
diploblastic  
dorsal  
ectoderm  
endoderm  
eumetazoan  
gastrula  
gastrulation  
germ layer  
indeterminate cleavage  
larva  
mesoderm  
metamorphosis  
parazoan  
posterior  
protostome development  
pseudocoelomate  
radial cleavage  
radial symmetry  
spiral cleavage  
triploblastic  
ventral

## CHAPTER 33

alimentary canal  
complete metamorphosis  
entomology  
exoskeleton  
gastrovascular cavity  
hermaphrodite  
incomplete metamorphosis  
invertebrate

medusa  
molting  
parthenogenesis  
Phylum Annelida  
Phylum Arthropoda  
Phylum Chordata  
Phylum Cnidaria  
Phylum Echinodermata  
Phylum Mollusca  
Phylum Nematoda  
Phylum Platyhelminthes  
Phylum Porifera  
polyp  
suspension feeder  
trilobite

## CHAPTER 34

amniote  
cloaca  
ectothermic  
endothermic  
eutherian  
extraembryonic membrane  
lateral line system  
marsupial  
monotreme  
notochord  
operculum  
oviparous  
ovoviviparous  
placenta  
placoderm  
swim bladder  
tetrapod  
vertebrate  
viviparous

## CHAPTER 35

annual  
apical dominance  
apical meristem  
axillary bud  
bark  
biennial  
blade  
cork cambium  
cortex  
cuticle  
dermal tissue system  
determinate growth  
fibrous root system  
ground tissue system

## CHAPTER 35 (cont.)

guard cell  
heartwood  
herbaceous  
indeterminate growth  
internode  
lateral meristem  
lateral root  
leaf  
meristem  
mesophyll  
morphogenesis  
morphology  
node  
perennial  
petiole  
phloem  
pith  
primary growth  
root  
root cap  
root hair  
root system  
sapwood  
secondary growth  
shoot system  
stem  
stomata  
taproot system  
terminal bud  
vascular cambium  
vascular tissue system  
vein  
xylem

## CHAPTER 36

Casparian strip  
chemiosmosis  
circadian rhythm  
cotransport  
guttation  
membrane potential  
mycorrhizae  
osmotic potential  
plasmolyze  
root pressure  
sugar sink  
sugar source  
translocation  
transpiration  
turgid  
turgor pressure  
water potential

## CHAPTER 37

horizon  
humus  
hydroponic culture  
loam  
macronutrient  
micronutrient  
nitrogen fixation  
nodule  
phytoremediation  
topsoil

## CHAPTER 38

aggregate fruit  
anther  
asexual reproduction  
carpel  
complete flower  
dioecious  
dormancy  
double fertilization  
endosperm  
fragmentation  
fruit  
imbibition  
incomplete flower  
inflorescence  
megaspore  
microspore  
monoecious  
multiple fruit  
ovary  
ovule  
petal  
pistil  
radicle  
receptacle  
seed coat  
self-incompatibility  
sepal  
simple fruit  
stamen  
stigma  
style  
vegetative reproduction

## CHAPTER 39

abiotic  
abscisic acid  
auxin  
avirulent  
biotic  
day-neutral plant

ethylene  
gibberellin  
gravitropism  
heat-shock protein  
long-day plant  
photoperiodism  
phototropism  
short-day plant  
statolith  
thigmomorphogenesis  
thigmotropism  
tropism  
virulent

## CHAPTER 40

abdominal cavity  
anatomy  
basal metabolic rate (BMR)  
columnar  
connective tissue  
cuboidal  
epithelial tissue  
estivation  
hibernation  
homeostasis  
integumentary system  
interstitial fluid  
macrophage  
metabolic rate  
mucous membrane  
muscle tissue  
negative feedback  
nervous tissue  
organ  
organ system  
physiology  
positive feedback  
simple epithelium  
squamous  
stratified epithelium  
thermoregulation  
thoracic cavity  
torpor  
vasoconstriction  
vasodilation

## CHAPTER 41

absorption  
appendix  
bile  
bolus  
bulk feeder

## CHAPTER 41 (cont.)

carnivore  
colon  
digestion  
duodenum  
elimination  
enzymatic hydrolysis  
esophagus  
essential nutrient  
extracellular digestion  
feces  
fluid feeder  
gallbladder  
gastrovascular cavity  
herbivore  
ingestion  
intracellular digestion  
liver  
malnourished  
microvilli  
mineral  
omnivore  
oral cavity  
pancreas  
pepsin  
peristalsis  
pharynx  
rectum  
ruminant  
salivary amylase  
salivary gland  
small intestine  
stomach  
substrate feeder  
suspension feeder  
undernourishment  
villi  
vitamin

## CHAPTER 42

alveoli  
arteriole  
artery  
atherosclerosis  
atrioventricular (AV) node  
atrium  
blood  
blood pressure  
bronchi  
bronchioles  
capillary

capillary bed  
cardiac cycle  
cardiac output  
cardiovascular system  
closed circulatory system  
countercurrent exchange  
diaphragm  
diastole  
electrocardiogram (EKG)  
erythrocyte  
heart attack  
heart rate  
hemoglobin  
hemolymph  
hypertension  
leukocyte  
lung  
lymph  
lymph node  
lymphatic system  
negative pressure breathing  
open circulatory system  
partial pressure  
plasma  
platelets  
positive pressure breathing  
pulmonary circuit  
pulse  
residual volume  
sinoatrial (SA) node  
stem cell  
stroke  
stroke volume  
systemic circuit  
systole  
thrombus  
tidal volume  
trachea  
tracheal system  
vein  
ventilation  
ventricle  
venule  
vital capacity  
vocal cord

## CHAPTER 43

acquired immunity  
active immunity  
anaphylactic shock  
antibodies  
antigen

apoptosis  
autoimmune disease  
B lymphocytes  
cell-mediated immune response  
clonal selection  
histamine  
humoral immune response  
immunization  
immunoglobulins  
inflammatory response  
innate immunity  
lysozyme  
macrophage  
memory cells  
passive immunity  
phagocytosis  
primary immune response  
secondary immune response  
T lymphocytes  
vaccination

## CHAPTER 44

Bowman's capsule  
excretion  
filtration  
glomerulus  
metanephridia  
nephron  
osmoconformer  
osmolarity  
osmoregulation  
osmoregulator  
renal artery  
renal vein  
secretion  
urea  
ureter  
urethra  
uric acid  
urinary bladder

## CHAPTER 45

adrenal gland  
androgen  
antidiuretic hormone (ADH)  
calcitonin  
catecholamines  
Diabetes mellitus  
endocrine gland  
endorphin  
epinephrine  
estrogen

## **CHAPTER 45 (cont.)**

glucagon  
gonadotropin  
growth factor  
growth hormone  
hormone  
hypothalamus  
insulin  
melatonin  
neurosecretory cell  
norepinephrine  
oxytocin  
pituitary gland  
prolactin  
prostaglandin  
signal transduction pathway  
testosterone  
tropic hormone

## **CHAPTER 46**

budding  
cervix  
cloaca  
conception  
estrous cycle  
estrus  
fetus  
fission  
follicle  
fragmentation  
gestation  
gonad  
hermaphroditism  
in vitro fertilization  
menopause  
menstrual cycle  
menstruation  
oogenesis  
organogenesis  
ovary  
oviduct  
ovulation  
ovum  
parthenogenesis  
parturition  
penis  
pheromone  
placenta  
prostate gland  
regeneration  
semen  
seminal vesicle  
spermatogenesis  
testes

urethra  
uterus  
vagina

## **CHAPTER 48**

acetylcholine  
action potential  
autonomic nervous system  
axon  
brainstem  
cell body  
central nervous system (CNS)  
cerebellum  
cerebrospinal fluid  
cerebrum  
corpus callosum  
dendrite  
depolarization  
effector cell  
endorphin  
epithalamus  
hyperpolarization  
hypothalamus  
interneuron  
medulla oblongata  
membrane potential  
motor neuron  
myelin sheath  
nerve  
neuron  
neurotransmitter  
parasympathetic division  
peripheral nervous system  
pons  
reflex  
resting potential  
saltatory conduction  
sensory neuron  
somatic nervous system  
sympathetic division  
synapse  
synaptic cleft  
synaptic vesicle  
thalamus

## **CHAPTER 49**

cardiac muscle  
endoskeleton  
exoskeleton  
hydrostatic skeleton  
intercalated disks  
locomotion

motor unit  
skeletal muscle  
sliding-filament model  
smooth muscle

## **CHAPTER 50**

abyssal  
aphotic zone  
benthic zone  
benthos  
biome  
biosphere  
canopy  
chaparral  
climate  
community  
community ecology  
deep-sea hydrothermal vent  
detritus  
dispersal  
ecology  
ecosystem  
ecosystem ecology  
ecotone  
estuary  
eutrophic lake  
intertidal zone  
landscape ecology  
limnetic zone  
littoral zone  
neritic  
oligotrophic lake  
organismal ecology  
patchiness  
permafrost  
photic zone  
population  
population ecology  
savanna  
thermocline  
tundra  
turnover

## **CHAPTER 51**

agonistic behavior  
altruism  
associative learning  
behavior  
behavioral ecology  
classical conditioning  
coefficient of relatedness  
cognition  
cognitive ethology  
cognitive map



## CHAPTER 51 (cont.)

communication  
culture  
ethology  
fixed action pattern (FAP)  
foraging  
habituation  
imprinting  
inclusive fitness  
innate behavior  
kinesis  
kin selection  
learning  
monogamous  
operant conditioning  
optimal foraging theory  
pheromone  
polyandry  
polygamous  
polygyny  
promiscuous  
reciprocal altruism  
sensitive period  
signal  
sign stimulus  
social learning  
sociobiology  
taxis

## CHAPTER 52

age structure  
carrying capacity  
cohort  
demography  
density  
dispersion  
ecological capacity  
ecological footprint  
emigration  
exponential population growth  
immigration  
infant mortality  
iteroparity  
*K*-selection  
life history  
life table  
logistic population growth  
mark-recapture method  
metapopulation  
population dynamics  
*r*-selection  
reproductive table  
semelparity  
survivorship curve

territoriality  
zero population growth

## CHAPTER 53

aposematic coloration  
Batesian mimicry  
biomass  
character displacement  
coevolution  
commensalism  
competitive exclusion  
cryptic coloration  
dominant species  
dynamic stability hypothesis  
ecological niche  
ecological succession  
energetic hypothesis  
evapotranspiration  
food chain  
food web  
herbivory  
host  
individualistic hypothesis  
integrated hypothesis  
intermediate disturbance  
hypothesis  
interspecific competition  
interspecific interaction  
invasive species  
keystone species  
Mullerian mimicry  
mutualism  
nonequilibrium model  
parasite  
parasitism  
parasitoidism  
pathogen  
predation  
primary succession  
resource partitioning  
redundancy model  
rivet model  
secondary succession  
species diversity  
species richness  
trophic structure

## CHAPTER 54

biogeochemical cycle  
biological magnification  
detritivore  
detritus  
eutrophication  
greenhouse effect

green world hypothesis  
gross primary production  
limiting nutrient  
net primary production  
primary consumer  
primary producer  
primary production  
production efficiency  
secondary consumer  
secondary production  
tertiary consumer  
trophic efficiency  
turnover time